



Supporting an Army at War

Heavy Vehicles



10T and larger Vehicles

Medium Vehicles



M35 2.5T

FMTV 10T Dump

2 1/2T to 5T Vehicles

Light Vehicles



3/4T to 1 1/4T 4WD Vehicles

With
Tactical Wheeled Vehicles



Agenda

- Mission
- Armored Vehicle Requirements
- Levels of Protection
- Armoring Concept
- Armored Vehicle Production
- Armor Testing
- Resourcing Status
- Accomplishments to Date
- Road Ahead

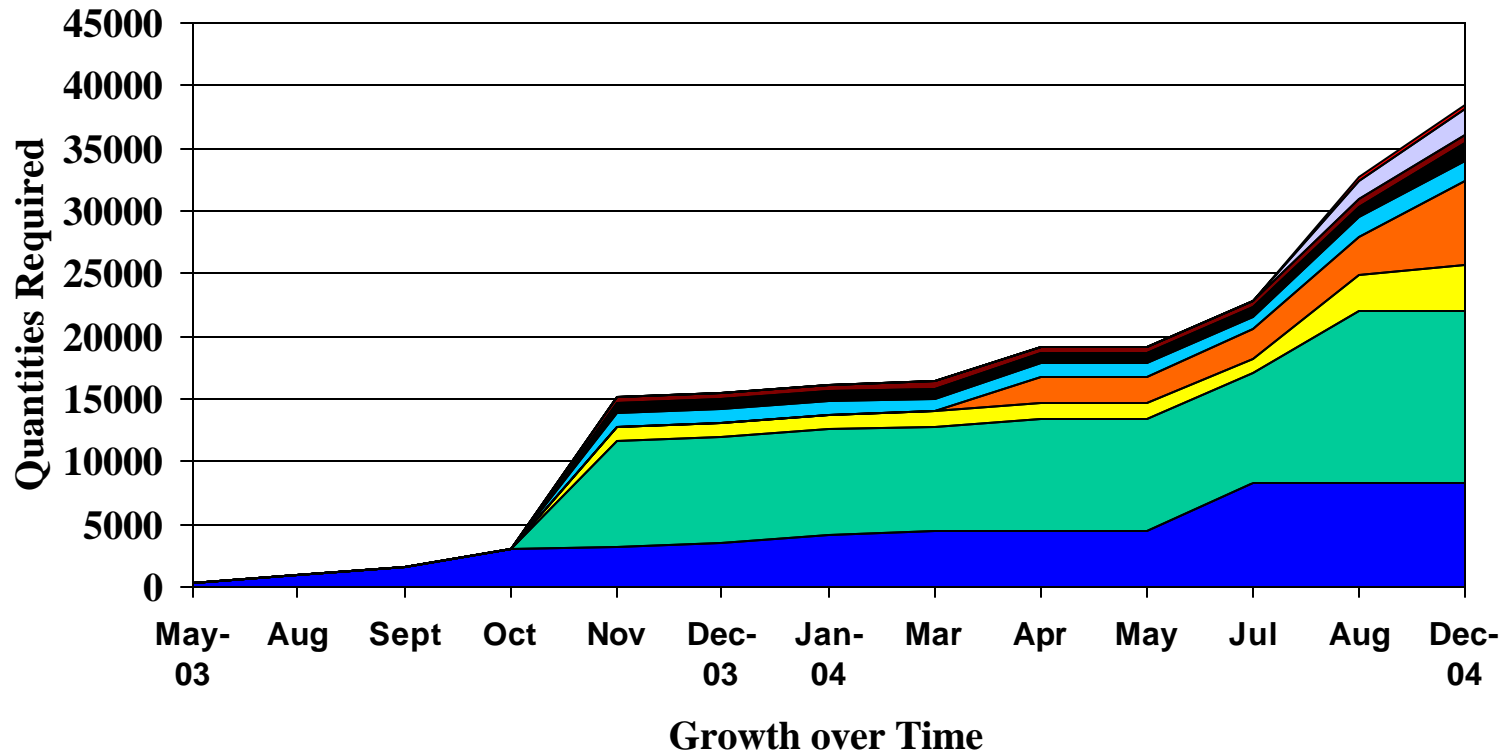


Mission

All wheeled vehicles
will be armored before
“crossing berm”



Armored Vehicle Requirements



LIGHT

- Up Armored HMMWV
- HMMWV AoA Kit

MEDIUM

- FMTV AoA Kit
- M900 (5T) AoA Kit

HEAVY

- HEMTT AoA Kit
- PLS AoA Kit
- HET AoA Kit
- M915 Line Haul AoA Kit
- M969 Fuel Tanker AoA

PLS – Palletized Loading System

HET – Heavy Equipment Transporter



Levels of Protection

- Level I – HQDA-approved Integrated Armor
 - o Fully integrated armor, ballistic windows and air conditioning installed during production/retrofit.
 - o Provides protection from small arms, mines and IEDs.
- Level II – HQDA-approved Add-On Armor Kits
 - o Includes armor panels, ballistic glass and air conditioners
 - o Provides protection from small arms, mines, and IEDs.
- Level III – Locally fabricated armor
 - o Interim solution
 - o Utilizing HQDA-approved steel, protection comparable to Level II without ballistic glass
 - o Cut and installed at theater or unit level



Levels of Protection

➤ Level I – HQDA-approved Integrated Armor



← Up Armored High Mobility Multi-Wheeled Vehicle (HMMWV)

Family of Medium Tactical Vehicles (FMTV) w/Integrated Cab →



➤ Level II – HQDA-approved Add-On Armor Kits

HMMWV
w/AoA Kit →



← FMTV w/AoA Kit

➤ Level III – Locally fabricated armor

Heavy Expanded Mobility Tactical Truck (HEMTT) w/locally fabricated armor →





Level III Armor Initiatives





Armoring Concept

1. Initial priority to combat zone for Levels I, II, and III armor protection
2. Ramp up/Prioritize kit production
 - Change focus from Light to Medium and Heavy fleets
3. Support Home Station armoring (Fort Carson and US Army, Europe)
4. Continually Improve Protection



Armor Summary

	Vehicle System		O/H in OIF/OEF	Validated Armor Requirement	Funding		Level I&II Armor in OIF/OEF (14 DEC 04)	Level III Armor in OIF/OEF (14 DEC 04)	% OIF/OEF Assets w/Armor (14 DEC 04) ²	% OIF/OEF Assets w/Armor (31 JAN 05)
					Current	Planned ³				
LTV	HMMWV	UAH	6,056	8,105	8,105	8,105	6,056		80%	
		Other	13,082	13,872	13,872	13,872	9,207	847		83%
		Total	19,138	21,977	21,977	21,977	15,263			
MTV	FMTV		3,598	2,805	1,705	3,598	538	929	41%	56%
	5 Ton - M939+		6,874	3,073	1,659	6,874	0	507	7%	21%
HTV	HEMTT		1,611	1,595	1,595	1,611	518	412	58%	83%
	PLS		1,275	871	871	1,275	206	193	31%	70%
	HET		591	665	665	665	2	356	61%	100%
	M915		2,028	1,302	626	2,028	10	1,554	77%	89%
Total (Less UAH)			29,059	24,183	20,993	29,923	10,481	4,798	53%	65%
Total			35,115	32,288	29,098	38,028	16,537	4,798	61%	73%

¹As per G8, 16 NOV 03

²(Armor in Theater)/(O/H in CENTCOM AOR)

³Includes FY05 Reprogramming (\$554M)

Level I – HQDA Approved Integrated Armor

- Protection against small arms, IEDs, & Mines

Level II – HQDA Approved Add-on Armor (AoA) Kit

- Heavy and Medium AoA Kits –Protection against small arms, IEDs, & Mines

Level III – Locally Fabricated Armor Kit

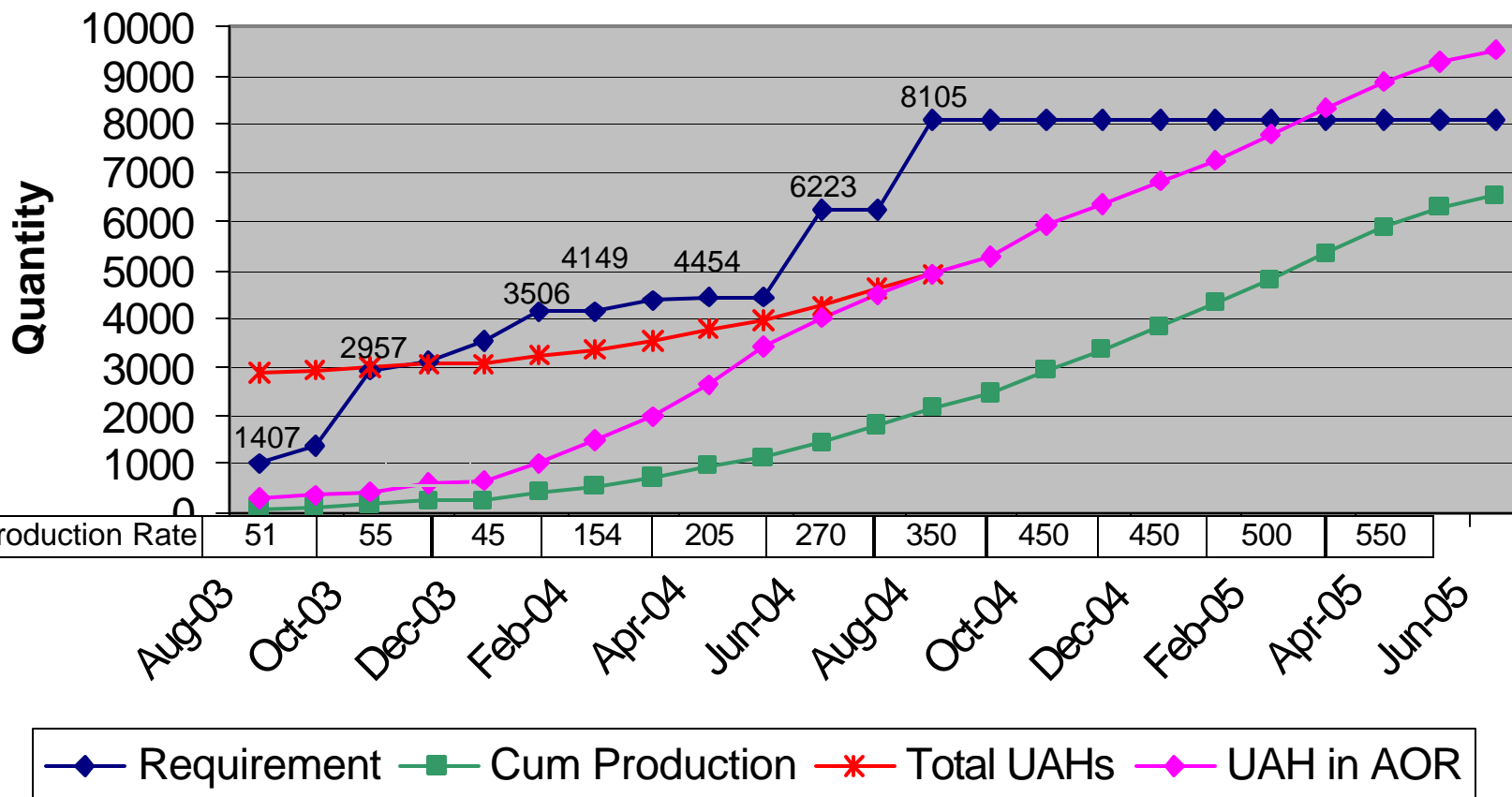
- HQDA Approved Steel

- Provides comparable protection to Level II without ballistic glass



UAH Requirements vs. Deliveries

UAH Requirements vs Deliveries

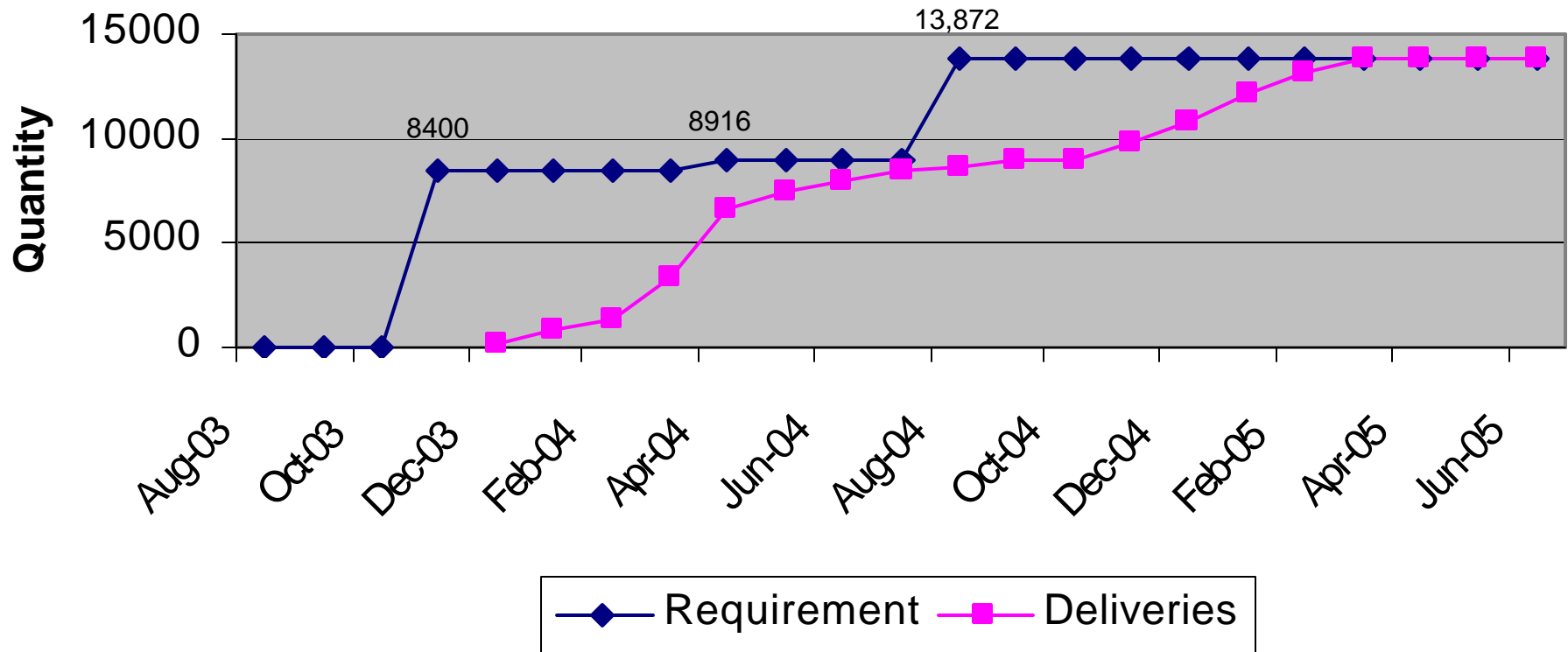


* Original Theater UAH Requirement in May 03 was 235



HMMWV AoA Kit Requirements vs. Deliveries

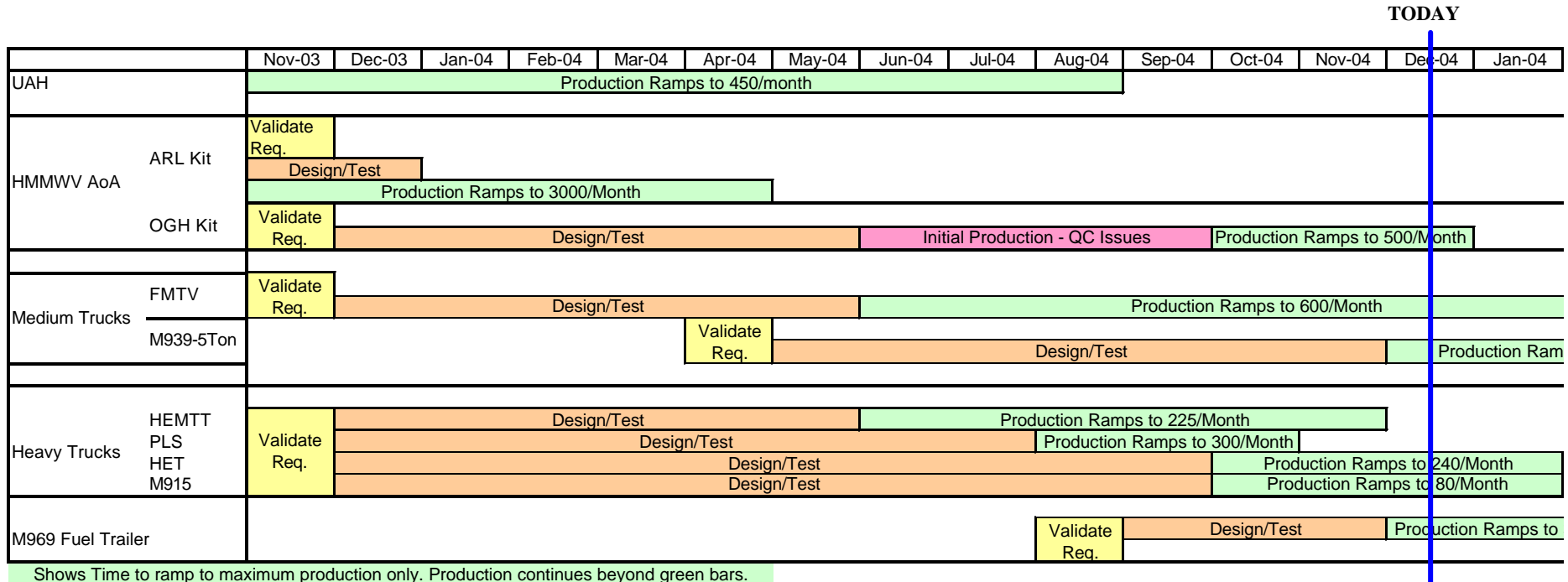
HMMWV AoA Kit Requirements vs. Deliveries





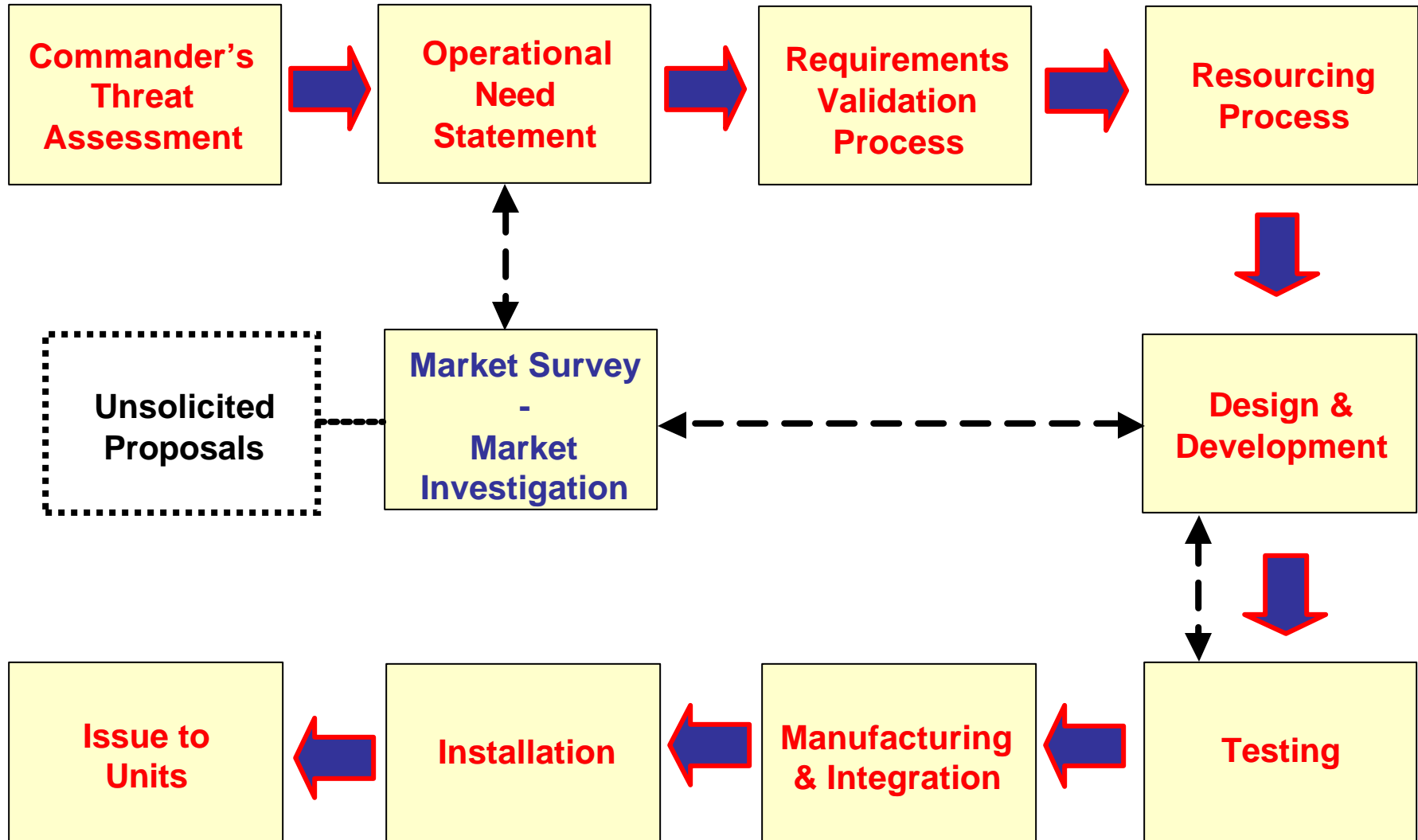
Armoring Effort

Requirement to Max Production





Requirements to Solutions Process





Armor Protection Kits Update

Systems Tested

- 207 different Armor proposals from 40 vendors, 15 Oct 2003 to Present
- HMMWV Armor Protection
 1. Baseline M1114
 2. 12 complete HMMWV Kits
- Other Kits/Vehicles
 1. FMTV (2 kits)
 2. HEMTT (2 kits)
 3. PLS
 4. M915
 5. M939
 6. HET
 7. Gun Box (6 types)
 8. USMC MAK
 9. MTRV (2 kits)
 10. Fuel Tanker Trailer (M969)
 11. Gunner Protection Kits

Provide Emerging Results

- Capabilities/Limitations
- Feedback to the Field



M939



HMMWV Troop Carrier



HMMWV A0



HMMWV A2



FMTV LSAC



HET



Ballistic Test Conducted

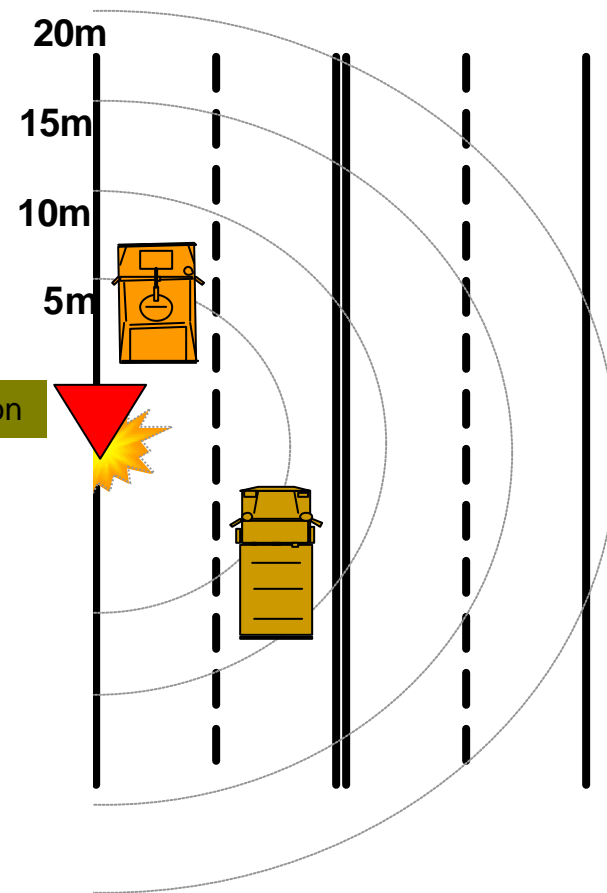
- **Penetration Tests conducted:**
 - **Bullet Threats**
 - **IED Threats**
- **Complete Vehicle Tests conducted (as appropriate):**
 - **Mine**
 - **RPG**
 - **IED**



IED Protection



Point of Detonation



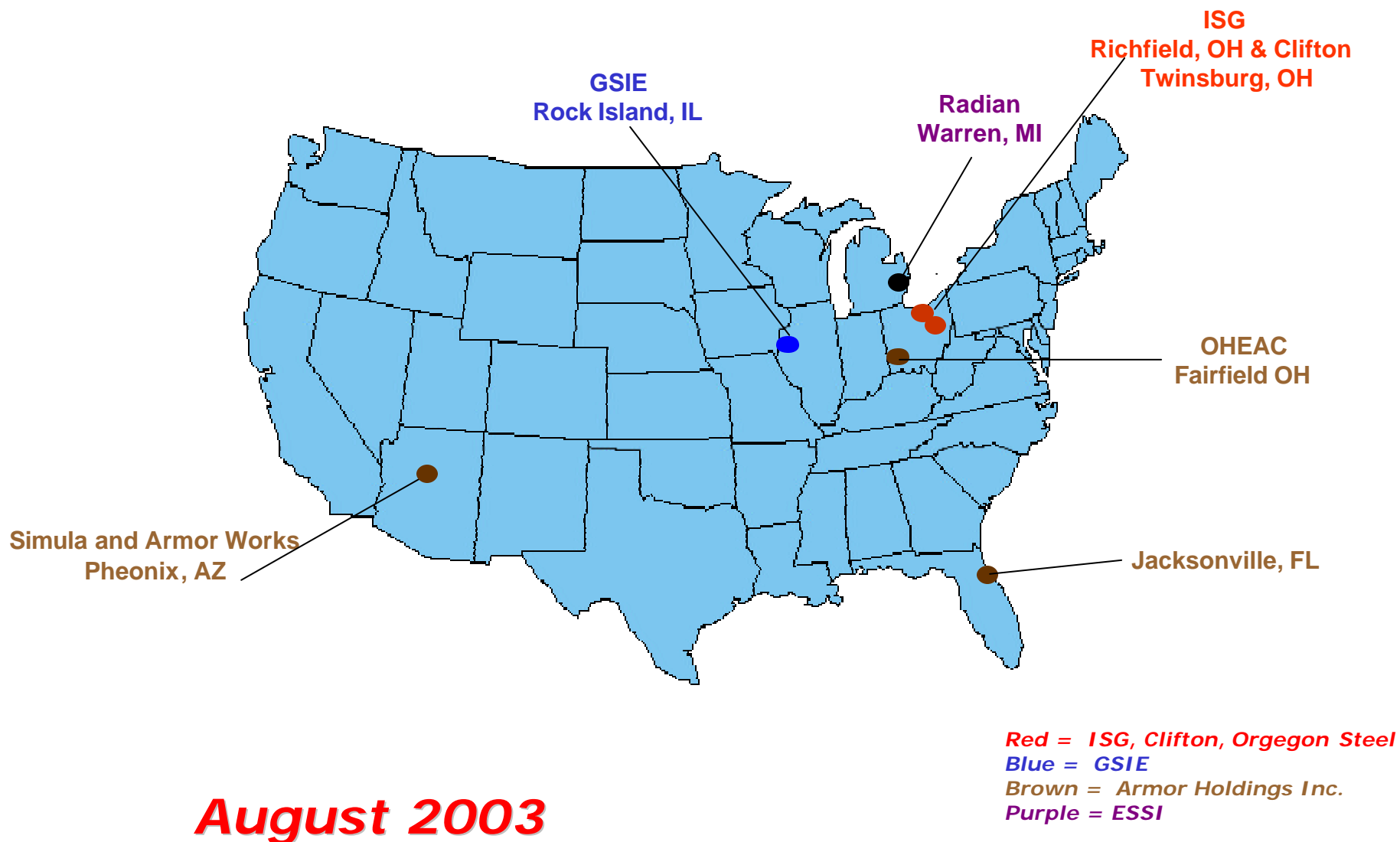


Automotive Test Conducted

- **Safety/Performance**
 - Braking
 - Steering/Handling
 - Slopes
 - Human Factors
- **Limited Endurance**
 - 3000 miles IAW current theater mission profile

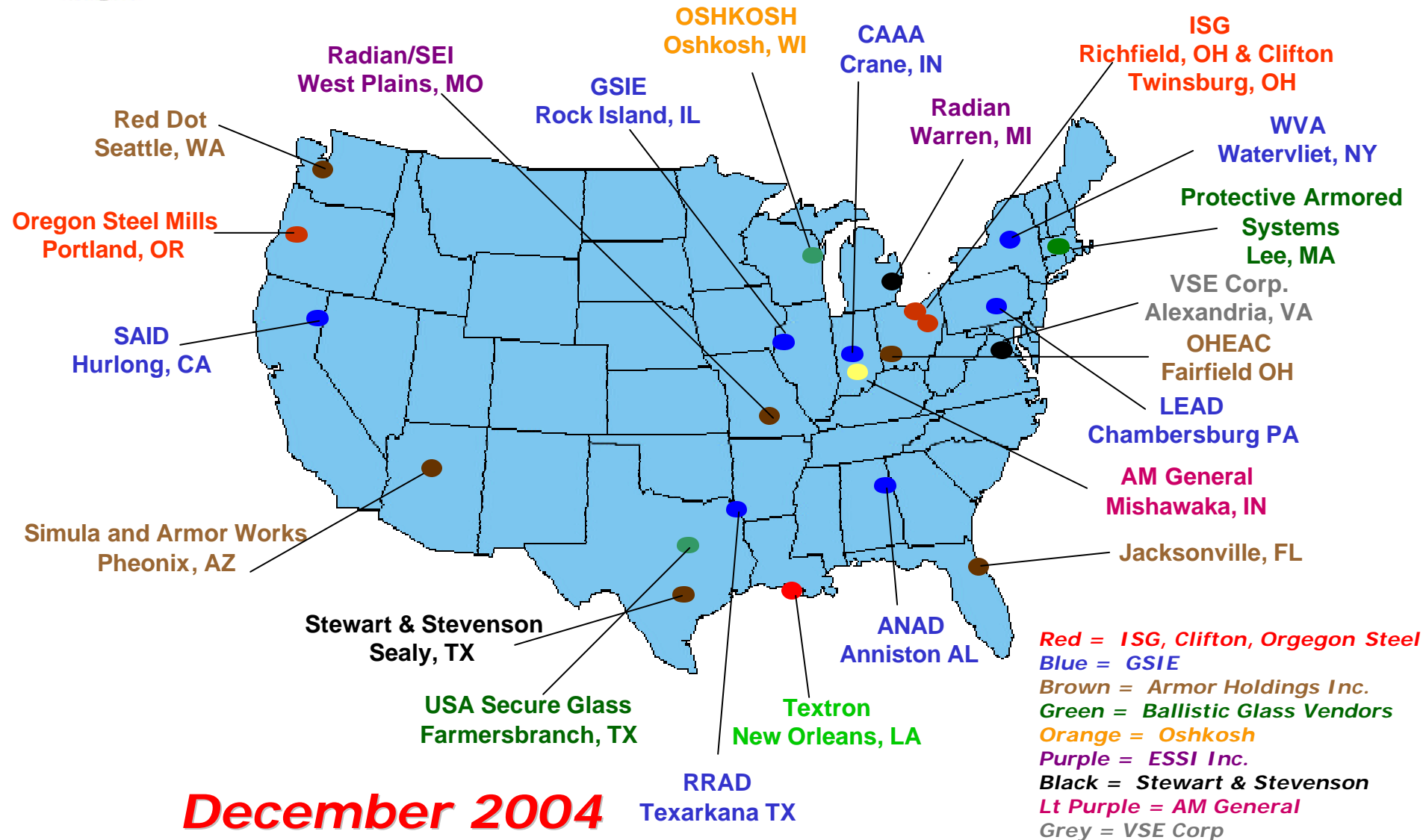


Armor Kit Procurement Locations





Armor Kit Procurement Locations





AoA Kits and Vendors



OGH HMMWV Kit

Produced By:
Armor Holdings Inc.
(OGHE)



ARL HMMWV Kit

Produced By:
GSIE/ARL



Troop Carrier Kit

Produced By:
ArmorWorks



M1114 UAH

Gunners Protection Kit
Produced By:
Armor Holdings Inc.
(OGHE)



FMTV RACK Kit

Produced By:
ESSI Inc.
(Radian/SEI)



FMTV LSAC Kit

Produced By:
Stewart & Stevenson



M939 Kit

Produced By:
GSIE



HEMTT Kit

Produced By:
Armor Holdings Inc.
(Simula)



PLS Kit

Produced By:
Armor Holdings, Inc.
(Simula)



HET Kit

Produced By:
Armor Holdings Inc.
(Simula)



M915A2/3/4 Kit

Produced By:
Armor Holdings Inc.
(Plasan Sasa)



M969 FTSS

Produced By:
VSE Corp

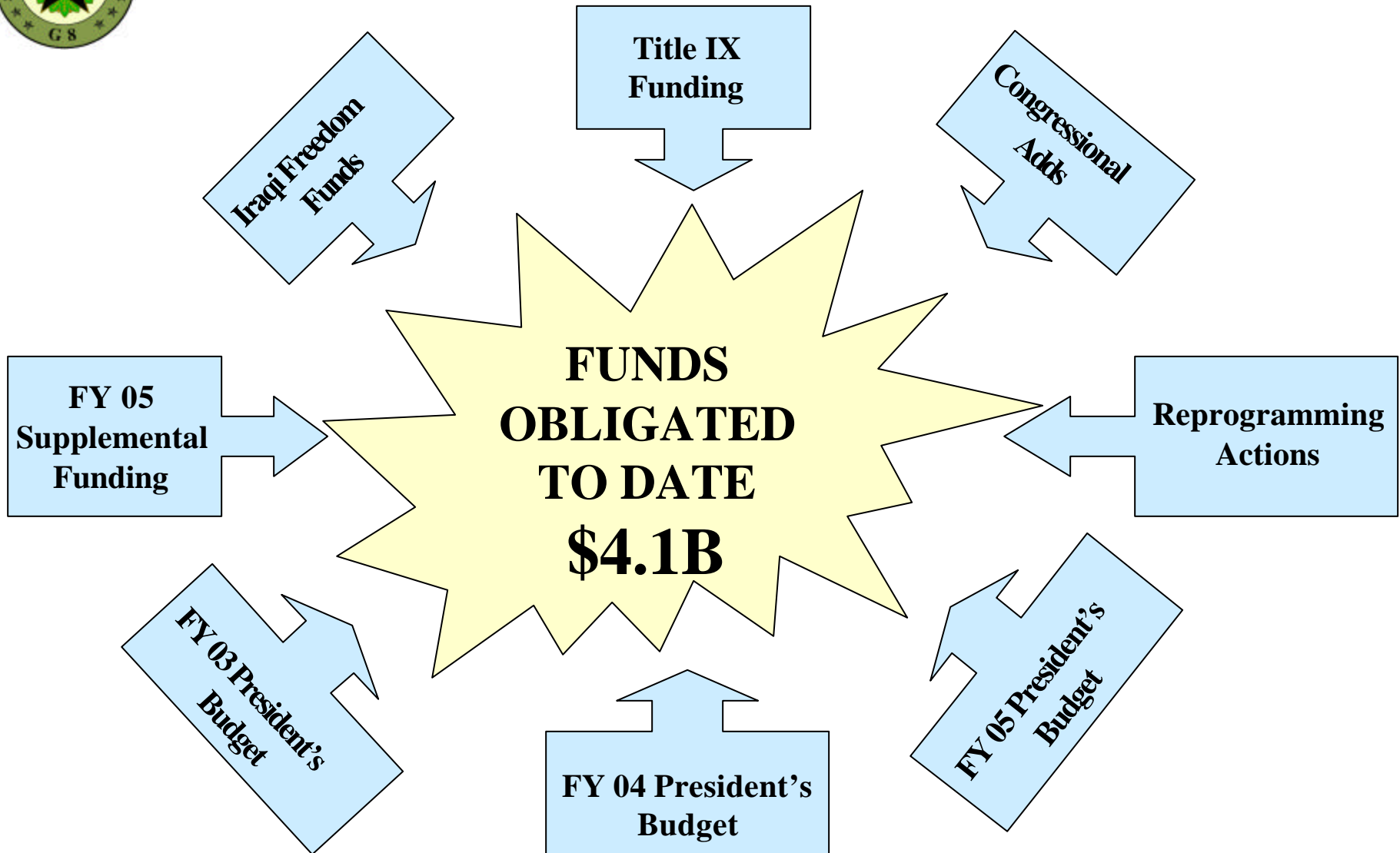


ASV

Produced By:
Textron



Resourcing





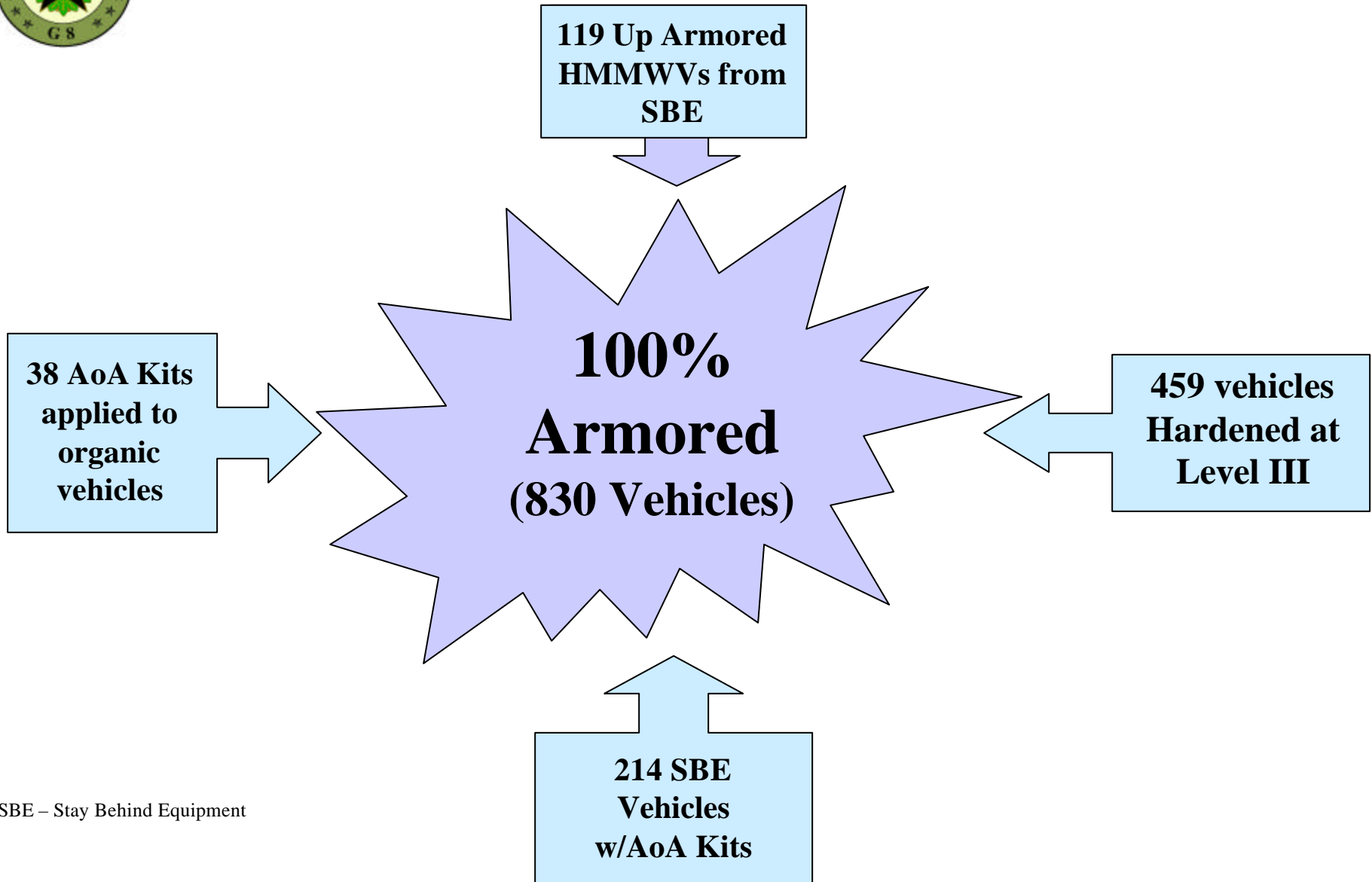
Accomplishments to Date

Since the inception of the Up Armor Program, we have accomplished the following:

- ✓ Provided over 22,500 armored vehicles in the AOR in 14 months
 - ✓ Level I – 26%
 - ✓ Level II – 56%
 - ✓ Level III – 18%
- ✓ Installed over 1,000 Electric Countermeasure/Jammer systems
- ✓ Installed 519 sets of Bradley Add-on Armor
- ✓ Installed 311 sets of Stryker Slat Armor
- ✓ Changed the 1/3 Armor - 2/3 Wheeled mix by leaving Tanks/Bradleys in theater, shipping from Korea and Charleston, and airlifting from Fort Hood (approx 300 total)
- ✓ Equipped all deployed soldiers with Individual Body Armor (IBA)
- ✓ Established Improvised Explosive Device (IED) Task Force and developed improved tactics, techniques and procedures (TTP) and training to identify and defeat IEDs

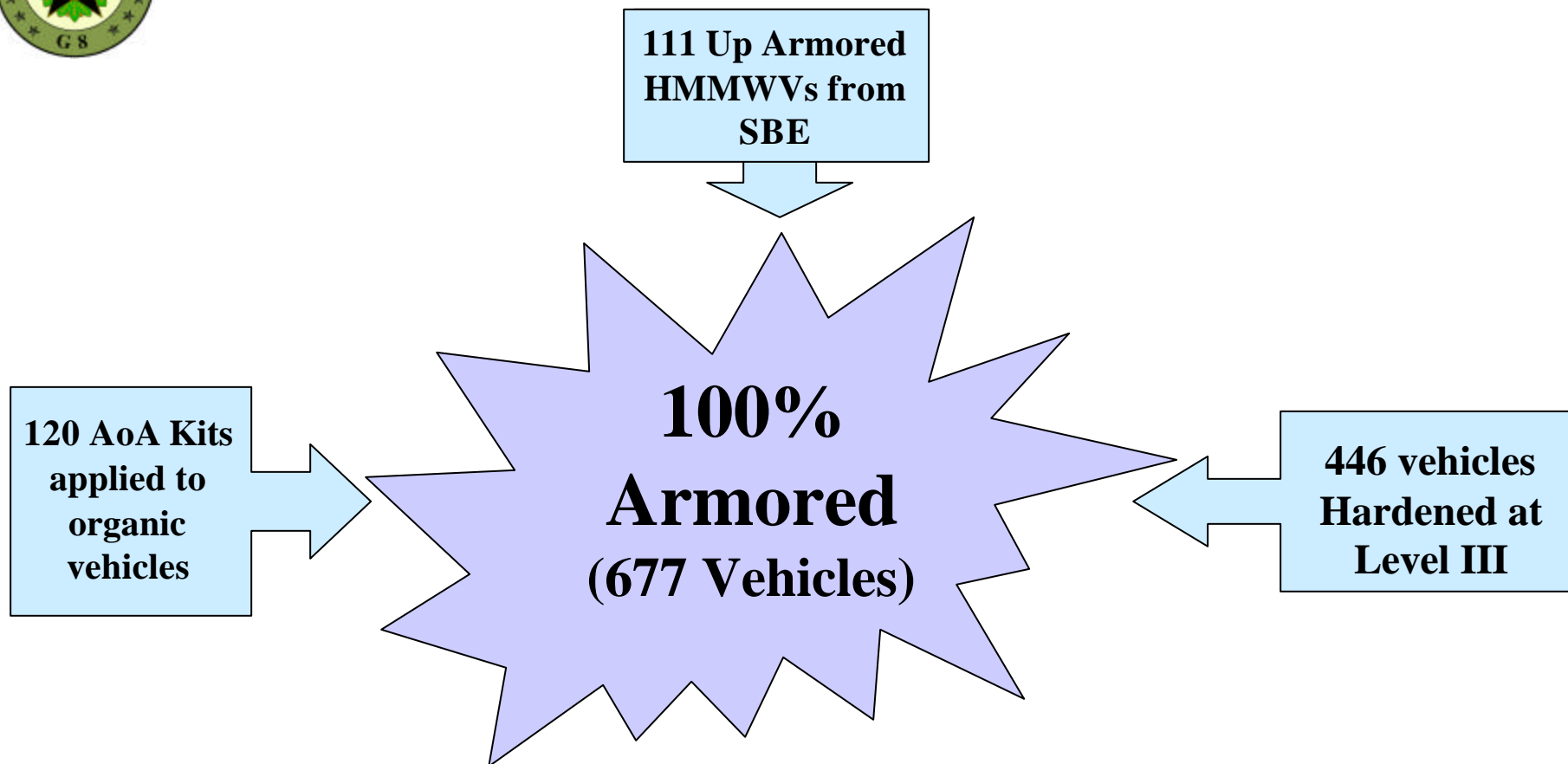


278th BCT Armor Status





116th BCT Armor Status





Road Ahead

- Armoring strategy is focused on commander's priority
- Transitioning focus from HMMWVs to remaining tactical wheeled vehicle fleet
- Maintain awareness of changing needs of the battlefield and continue to accelerate armoring initiative
- By June 2005, current requirement in the combat zone will have Level I and II armor
- Formed SecArmy Task Force to further accelerate uparmoring efforts.



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